

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 March 2004 (11.03.2004)

PCT

(10) International Publication Number  
**WO 2004/021344 A1**

(51) International Patent Classification<sup>7</sup>: **G11B 19/20**,  
19/247

(21) International Application Number:  
PCT/JP2003/010277

(22) International Filing Date: 13 August 2003 (13.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2002-254335 30 August 2002 (30.08.2002) JP

(71) Applicant (for all designated States except US): MAT-  
SUSHITA ELECTRIC INDUSTRIAL CO., LTD.  
[JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka  
571-8501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MARUYAMA,  
Tooru [JP/JP]; 2-13, Sawaragi-Nishi 2-chome, Ibaraki-shi,  
Osaka 567-0868 (JP). KISHIMOTO, Takashi [JP/JP];  
2460-70-2-302, Nimyo 2-chome, Nara-shi, Nara 631-0072  
(JP). FUJIUNE, Kenji [JP/JP]; 24-4-B202, Noda

2-chome, Takatsuki-shi, Osaka 569-0013 (JP). WATAN-  
ABE, Katsuya [JP/JP]; 854-2, Ayameike-Minami  
7-chome, Nara-shi, Nara 631-0033 (JP).

(74) Agent: NII, Hiromori; c/o NII Patent Firm, 3rd Floor,  
Shin-Osaka Suehiro Center Bldg., 11-26, Nishinakajima  
3-chome, Yodogawa-ku, Osaka-shi, Osaka 532-0011 (JP).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

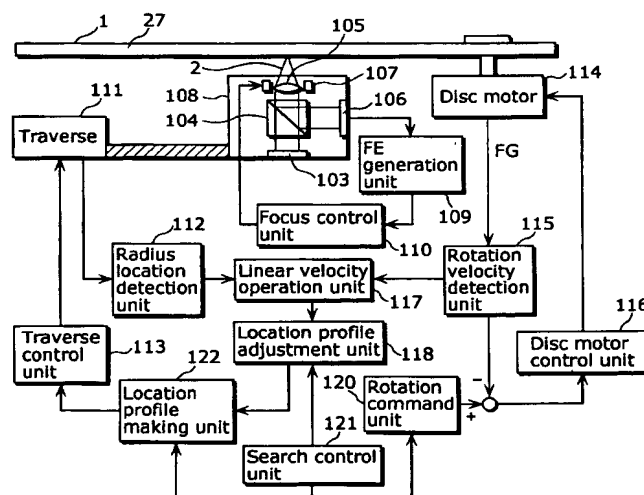
(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: OPTICAL DISC APPARATUS



(57) Abstract: The optical disc apparatus comprises a disc motor (114) operable to rotate an optical disc (1), a traverse (111) operable to move an optical beam spot which is irradiated on an optical beam on the optical disc (1) to the radius direction of the optical disc (1), a linear velocity operation unit (117) operable to detect the linear velocity of the optical beam spot, a disc motor control unit (116) operable to control the disc motor (114) so that the linear velocity detected by the linear velocity operation unit (117) remains roughly invariable in an arbitrary radius location on the optical disc (1) when information recorded on the optical disc (1) is read out, a search control unit (121) and a location profile adjustment unit (118) operable to control a traverse (111) so as to prevent the linear velocity from decreasing to the permissible linear velocity or below when the optical beam spot is moved by the traverse (111).



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

Application No  
PCT/JP 03/10277

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G11B19/20 G11B19/247

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 172 946 B1 (FURUKAWA SHIGEAKI ET AL) 9 January 2001 (2001-01-09)	1-4, 9-13, 17, 22, 23, 25-27, 29
A	column 3, line 19 -column 5, line 2; claim 1; figures 1-5 abstract	14-16, 18-20, 24, 28 21
A	column 9, line 26 -column 9, line 33	
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 09, 13 October 2000 (2000-10-13) & JP 2000 173167 A (FUNAI ELECTRIC CO LTD), 23 June 2000 (2000-06-23) abstract	5, 6, 24, 28
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

17 November 2003

Date of mailing of the international search report

12/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Lehnberg, C

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/JP 03/10277

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 254 920 A (AGARWAL VINAY K ET AL)  19 October 1993 (1993-10-19)  Abstract  column 3, line 19 -column 3, line 34  -----</p>	1-29

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Application No  
PCT/JP 03/10277

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 6172946	B1	09-01-2001	JP	10011890 A	16-01-1998
			KR	234961 B1	15-12-1999
JP 2000173167	A	23-06-2000	NONE		
US 5254920	A	19-10-1993	NONE		